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LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

BULLETIN No. 92

DISTILLED LIQUORS

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DISTILLED LIQUORS

OTTAWA, Novembpr 25, 1903.

W. J. GERALD, Esq.,
Deputy Minister of Inland R[illegible]e.

SIR,—I beg to transmit herewith inclosed a report by Mr. McGill on the samples of distilled liquors which were collected in accordance with your instructions of August 11 last. The report is accompanied by a tabulated statement which describes the origin of the samples and the results obtained in their examination.

I am, sir, your obedient serv[illegible]t,

THOMAS [illegible] FARLANE,
Chief Analyst.

OTTAWA, October 31, 1903.

THOMAS MACFARLANE, Esq., F.R.S.C., &c.,
Chief Analyst.

SIR,—I beg to hand you my report on 216 samples of liquors. These consist of the following :—

Rye whiskey	91	Samples.
White "	30	"
Scotch "	24	"
Irish "	2	"
Gin	27	"
Rum	12	"
Brandy	30	"
	216	"

No deleterious substances have been found in any of these samples.

In accordance with special instructions, I have made examination for alkaloids in all whiskey samples having less than 75 per cent proof strength. A negative result was obtained in every case.

The principal adulterant is water. In order to enable me to say whether or not a sample may be styled 'adulterated' from dilution with water, it is necessary to recognize some standard strength for alcohol. The British 'Sale of Food Amendment Act' of 1879 fixed the minimum limit strength for gin at 65 per cent, and that for brandy, rum and whiskey at 75 per cent of proof spirit.

Although these limits are not legally recognized in Canada, I have used them (in the absence of any other standard) for purposes of comparison.

The following summary will show, at a glance, the result of their application :—

Kind.	Total Number of Samples.	Above Standard Strength.	Below Standard Strength.	Percentage.	
				Above.	Below.
Rye whiskey	91	25	66	27·5	72·5
White "	30	5	25	17·0	83·0
Scotch "	24	22	2	92·0	8·0
Irish "	2	2	0	100·0	0·0
Gin	27	19	8	70·0	30·0
Rum	12	11	1	92·0	8·0
Brandy	30	25	5	83·0	17·0

From this table it appears that the liquors most tampered with are those which are most in demand, viz :—whiskey (rye and malt) and gin.

The last examination of liquors of this character made by me was in 1891;* and it is interesting to compare the results then obtained with those shown in the above table. This I have done in the subjoined table, where percentage numbers are used.

Kind of Liquor.	Collection of 1903.			Collection of 1891.		
	Number Examined.	Above Standard.	Below Standard.	Above Standard.	Below Standard.	Number Examined.
Rye whiskey	91	27·5	72·5	23·0	77·0	61
White "	30	17·0	83·0	12·0	88·0	33
Scotch "	24	92·0	8·0	77·0	23·0	22
Irish "	2	100·0	0·0	80·0	20·0	10
Gin	27	70·0	30·0	100·0	0·0	19
Rum	12	92·0	8·0	86·0	14·0	13
Brandy	30	83·0	17·0	84·0	16·0	24

Except in the case of gin and brandy the above comparison shows a decided improvement in the quality of these spirits in the interval of twelve years. Gin shows a noteworthy falling off in spirit strength.

The term 'spirit gravity' is used in the tables to signify the gravity which the liquor would have, provided that nothing else than alcohol and water were present. Of course the original gravity of the liquor is always higher than the spirit gravity, from the presence in it of matter in solution (sugar, caramel, tannins, glycerine, &c.) having a density higher than water.

In calculating the percentage of alcohol (and proof spirit) from the 'spirit gravity,' the tables of O. Hehner have been used. These tables are sanctioned by the excise regulations of our own country, as well as in England, Germany and elsewhere.

I may add that the furfurol test, and the production of a distinct turbidity (opalescense) on addition of water to the distillate, are the chief means we possess for discriminating between a liquor which has been produced by direct distillation from the 'mash,' and one which has been manufactured by reducing rectified spirit with water to the desired strength, and further addition of flavouring or colouring matter. Scotch and Irish whiskies, gin, rum and brandy are liquors of the first type (sometimes spoken of as pot-still spirits). Rye whiskey and white whiskey (malt whiskey) are usually manufactured from rectified spirit.

Fuller details regarding this aspect of the question are given in Bulletin 27 of this series.

I have received valuable assistance in carrying out this investigation from Mr. Lemoine and Mr. Valin.

I have the honour to be, sir, your obedient servant,

A. McGILL.

* Bulletin 27.

INSPECTION OF RYE WHISKEY—

Date of Collection	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Aug. 27..	Rye Whiskey...	M. J. Foley, Souris, P.E.I.....	Sullivan & Co., St. John, N.B....	4371
Sept. 8..	.....	Kelley & Glassey, Halifax, N.S.	Gooderham & Worts, Toronto, Ont.	20335
" 9..	.....	J. Hogan, Halifax, N.S.....	Unknown.....	20340
" 19..	.....	J. McIntosh, Kentville, N.S.....	H. Walker, Walkerville.....	20383
Aug. 22..	'Imperial'.....	Henry Finnegan, St. John, N.B	" "	17938
" 24..	'Seagram's Canadian.'	McIntyre & Comeau " ..	Seagram Distillery, Waterloo, Ont.	17939
" 25..	.....	C. H. Fairweather, Sussex, N.B.	H. Corby, Belleville, Ont.....	17942
" 26..	.....	P. Gallagher, St. John, N.B.....	Wm. Marshall, Hamilton, Ont...	17948
Sept. 8..	.....	Frank Smith, St. Stephen, N.B.	H. Walker & Sons, Walkerville, O.	17961
" 10..	.....	P. D. Bourgoin, Grand Falls, N.B.	" "	17967
Aug. 28..	.....	A. Caron, Rimouski.....	Wiser, Prescott, Ont.....	24503
" 29..	.....	J. W. Anctil, Rivière du Loup...	N. Rioux, Quebec.....	24505
" 31..	.....	Damiens & Cie. " ..	J. Baillargeon, Quebec.....	24507
" 31..	.....	Tetû Frères, Montmagny, Que...	H. Walker, Walkerville.....	24508
Sept. 1..	.....	A. G. Lambert, Levis, Que	Whitehead & Turner, Quebec....	24510
" 1..	.....	A. W. Couture "	.....	24512
" 3..	.....	J. H. Lessard, Thetford, Que ..	Walker's.....	24516
" 5..	.....	A. Trudeau, Coaticook, Que....	"	24518
" 16..	.....	Alex. Berriquer, Lachute Mills..	F. X. St. Charles, Montreal	24520
" 17..	.....	P. Simard, St. Jérôme	Gooderham & Worts, Toronto ..	24522
" 17..	.....	Ed. Langlois "	P. Simard, St. Jérôme..... ..	24524
Aug. 18.	.....	Desjardin & Co., 65 Commissioners St., Montreal.	D. Lariverre & Co.....	21323
.....	.....	Louis Payette & Co., 125 Commissioners St., Montreal.	L. O. Wilson & Co...	21324
Aug. 18..	.....	T. N. Laganier, 11 Commissioners St., Montreal.	L. Chaput, Fils & Co., Montreal..	21327
" 20..	.....	Joseph Valiquette, Montreal.....	Purchased with other stock from J. Octeau.	21334
" 20..	.....	T. Brisson, 139 Commissioners St.	Not given.....	21336
" 20..	.....	A. Charbonean, 12 William St., Montreal.	L. Chaput & Co	21337
" 20..	.....	E. Gauvreau, 185 Commission'rs St.	Blended by vendor.....	21341
" 21..	.....	J. Frail, 133 Commissioners St...	Boivin, Wilson & Co.	21343
" 21..	.....	Emile Délisle, 522 Lagauchetière St.	P. X. St. Charles, Montreal.....	21346
" 21..	.....	Dame & Frère, 1356 DeMontigny St.	L. Chaput et Fils, Montreal... ..	21348
" 21..	.....	Thos. Barry, 864 St. Dominique St.	" "	21349
.....	.....	D. 573 Marie Anne.	Laporte, Martin & Co., Montreal.	21351
.....	.....	Oscar Rivet, 2394 Notre Dame St.	Not given.....	21353
Aug. 21..	.....	Mde. Lapierre, 3735 Notre Dame St., St. Cunegonde.	Laporte, Martin & Co., Montreal.	21356
" 21..	.....	J. Nevu, Notre Dame St., St. Henri.	Not given.....	21357
.....	.....	V. Boileau, 886 St. Catherine St..	Bottled by vendor	21360
Aug. 26..	.....	E. Kennedy, Smith's Falls, Ont..	J. P. Wiser.....	21438
" 26..	.....	McDermott & McCarthy, Prescott.	Bottled by vendor	21442
" 27..	.....	Antoine Wendling, Brockville...	Taken from bottle as served at bar	21440
" 31..	.....	E. Halliday, Kingston, Ont.....	" " ..	21443
" 31..	.....	Thos. J. Leahy "	Meagher Bros., Montreal.	21446
" 31..	.....	Jas. McParland "	Gooderham & Worts, Toronto...	21447
" 31..	.....	J. Halligan "	Bottled by vendor..	21449
" 31..	.....	Rigney & Hickey "	"	21451
.....	.....	C. McLean "	Taken from vessel in bar. Seagram's.	21453
Aug. 31..	.....	Chas. Lyon, Kingston	Taken from vessel in bar, Seagram's.	21454

Tabulated Statement.

Result of Analysis.							Observations.
Specific Gravity of Sample.	Spirit Gravity	Difference.	Fixed Matter.	Alcohol. Weight.	Alcohol. Volume.	Proof Spirit.	
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
·9464	·9441	·0023	.....	37·61	44·73	72·39	Above British standard strength in alcohol by 3·39 per cent proof spirit.
·9500	·9484	·0016	2·400	35·30	42·17	73·91	Below " 1·09 " "
·9477	·9444	·0033	4·200	37·44	44·55	78·07	Above " 3·07 " "
·9623	·9615	·0008	1·720	27·57	33·39	56·53	Below " 16·47 " "
·9438	·9429	·0009	1·680	38·28	45·[illegible]	79·68	Above " 4·68 " "
·9474	·9432	·0042	6·320	38·11	45·28	79·36	" " 4·36 " "
·9594	·9583	·0011	1·530	29·67	35·81	62·76	Below " 12·24 " "
·9602	·9593	·0009	1·720	29·00	35·05	61·42	" " 13·58 " "
·9529	·9523	·0006	1·260	33·29	39·94	69·99	" " 5·01 " "
·9444	·9429	·0015	1·700	38·28	45·47	79·68	Above " 4·68 " "
·9529	·9520	·0009	3·500	33·47	40·14	70·34	Below " 4·66 " "
·9561	·9543	·0018	2·700	32·06	38·53	67·55	" " 7·45 " "
·9707	·9682	·0025	3·940	22·69	27·68	48·50	" " 26·50 " "
·9527	·9509	·0018	2·100	34·10	40·84	71·58	" " 3·42 " "
·9544	·9538	·0006	0·960	32·37	38·89	68·17	" " 6·83 " "
·9606	·9588	·0018	2·540	29·33	35·43	62·09	" " 12·91 " "
·9484	·9480	·0004	1·090	35·50	42·40	74·30	" " 0·70 " "
·9635	·9622	·0013	1·780	27·07	32·81	57·51	" " 17·49 " "
·9483	·9453	·0030	2·500	36·94	44·00	77·10	Above " 2·10 " "
·9473	·9450	·0023	2·420	37·11	44·18	77·42	" " 2·42 " "
9496	·9484	·0012	2·360	35·30	42·17	73·91	Below " 1·09 " "
·9689	·9684	·0005	0·800	22·54	27·49	48·18	" " 26·82 " "
·9666	·9656	·0010	1·220	24·69	30·04	52·64	" " 22·36 " "
·9701	·9694	·0007	1·86	21·77	26·58	46·59	" " 28·41 " "
·9639	·9620	·0010	1·740	26·60	32·27	56·55	" " 18·45 " "
·9703	·9699	·0004	0·660	21·38	26·13	45·79	" " 29·21 " "
·9708	·9699	·0009	1·640	21·38	26·13	45·79	" " 29·21 " "
·9694	·9689	·0005	1·460	22·15	27·04	47·39	" " 27·61 " "
·9603	·9597	·0006	1·200	28·75	34·76	60·91	" " 14·09 " "
·9660	·9652	·0008	1·220	25·00	30·40	53·27	" " 21·73 " "
·9610	·9591	0019	1·200	29·13	35·[illegible]	61·69	" " 13·31 " "
·9548	·9531	·0017	1·540	32·81	39·40	69·04	" " 5·96 " "
·9589	·9580	·0009	1·380	29·87	36·04	63·17	" " 11·83 " "
·9612	·9602	·0010	2·100	28·44	34·40	60·28	" " 14·72 " "
·9696	·9679	·0017	1·080	22·92	27·95	48·98	" " 26·02 " "
·9690	·9662	·0028	3·280	24·23	29·49	51·69	" " 23·31 " "
·9646	·9638	0008	1·020	26·00	31·57	55·32	" " 19·68 " "
·9553	·9542	·0011	2·280	32·12	38·60	67·67	" " 7·33 " "
·9616	·9611	·0007	1·640	27·86	33·73	59·11	" " 15·89 " "
·9484	·9476	·0008	1·30	35·70	42·62	74·68	" " 0·32 " "
·9481	·9475	·0006	1·360	35·75	42·67	74·78	" " 0·22 " "
·9511	·9492	·0019	4·440	34·90	41·74	73·14	" " 1·86 " "
·9476	·9465	·0011	2·720	36·28	43·26	75·80	Above " 0·80 " "
·9569	·9554	·0015	1·340	31·37	37·76	66·18	Below " 8·82 " "
·9470	·9460	·0010	2·620	36·06	43·01	76·34	Above " 1·34 " "
·9629	·9608	·0021	1·960	28·06	33·97	59·53	Below " 15·47 " "
·9517	·9509	·0008	2·44	34·10	40·84	71·58	" " 3·42 " "

INSPECTION OF RYE WHISKEY—

Date of Collection.	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Sept. 2		D. Smith, Market Sq., Hamilton	Murray & Lottridge, Hamilton	23201
" 2		Chas. Schwenger "	Not given	23203
" 2		P. J. Galvin "	"	23205
" 2		Hazell & Sons, King St. "	Bottled by vendor	23207
" 2		J. O. Carpenter "	"	23208
" 3		John Mathers, 152 King West, Toronto.	"	23210
" 3		Geo. Stram, 252 King West, Toronto.	Kept on draught in bar	23212
" 3	Fine Old Canadian Rye.	E. Morgan, 491 Queen East, Toronto.	Bottled by vendor	23213
		C. E. Vardon, 543 Queen East, Toronto.	"	23216
Sept. 3		M. Wade, 502 Portland St., Toronto.	Kept on draught	23217
" 3		T. Reynolds, 837 Queen East, Toronto.	Bottled by vendor	23220
Aug. 20		Thos. J. Bell, Clinton, Ont	Hiram Walker, Walkerville, Ont.	22111
" 20		W. W. Sault, Goderich	Lucas, Steele & Bristow, Hamilton	22113
" 25		Jeremiah Miller, Harrison, Ont	Gooderham & Worts, Toronto	22128
" 25		John Garbet "	Joseph Seagram, Waterloo	22129
" 25		Richard Handly, Walkerton	"	22133
" 25		Louis Plaff, Mount Forest	Gooderham & Worts, Toronto	22137
Sept. 1		Joseph E. Seagram, Waterloo	Joseph E. Seagram	22146
" 2		W. G. Bernhart, Galt, Ont	Royal Distillery, Hamilton	22151
" 2		John Stockfish, Preston, Ont	Joseph E. Seagram, Waterloo	22152
" 2		Joseph Weyper, Preston	Royal Distillery, Hamilton	22153
		Harding Bros., Guelph	H. Walker & Son, Walkerville	22154
Sept. 2		Frank Hall, Guelph, Ont	H. Walker & Sons, Walkerville	22155
" 2		E. Dawson, Seaforth	H. Corby, Belleville	22157
Aug. 29		A. Bernard, Winnipeg	J. E. Seagram, Waterloo, Ont	23713
" 29		Paul Sala "	H. Walker & Sons, Walkerville, Ont.	23714
" 29		J. Lemaire "	" "	23715
" 30		Beleviau & Co. "	" "	23716
Sept. 3		S. Demers "	G. F. J. Gates, Winnipeg	23717
" 3		D. Ripsteins "	Geo. Vetu, Winnipeg	23719
" 4		T. D. Cavannagh, Winnipeg		23720
" 8		T. F. Ellis, Red Deer	H. Walker Sons, Walkerville	21746
" 10		A. Laurandeau, Edmonton	Gooderham & Worts, Toronto	21750
" 10		F. X. Paré & Co., Strathcona	H. Walker & Sons, Walkerville	21758
" 15		R. J. McKeran "	Gooderham & Worts, Toronto	21759
" 15		J. A. Young, Calgary	Hiram Walker, Walkerville	21762
" 15		Jas. Doyle "	Gooderham & Worts, Toronto	21763
Aug. 25		W. Jones, Vancouver	Hudson Bay Co., Vancouver	23554
" 25		T. Roberts "	Pither & Leiser, Victoria	23555
" 25		A. Calore, Europe Hotel, Vancouver.	"	23557
" 25		Geo. Waring, Nanaimo	Hudson Bay Co., Victoria	23581
" 28		F. Mondor, St. Boniface	Gooderham & Worts, Toronto	23708
" 21		T. A. Newman Bros., Portage la Prairie.	" "	17487
				17497

NOTE.—Of 91 samples of rye whiskey 25 are above standard strength in alcohol, and 66 are below that trength.

All samples below standard strength have been examined for alkaloids. No alkaloids have been found.

None of the samples gave reactions for furfurol.

None of the distillates gave any opalescence on diluting with water.

Tabulated Statement—*Continued.*

Result of Analysis.							Observations.
Specific Gravity	Spirit Gravity	Difference.	Fixed Matter.	Alcohol.		Proof Spirit.	
				Weight.	Volume.		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
·9694	·9594	·0010	1·06	28·94	34·97	61.20	Below British standard strength in alcohol by 13·71 per cent proof spirit.
·9632	·9621	·0011	1·20	27·14	32·90	57·65	" " 17·35 " "
·9515	·9512	·0003	1·14	33·94	40·67	71·27	" " 3·73 " "
·9547	·9532	·0015	1·02	32·75	39·32	68·92	" " 6·08 "
·9552	·9542	·0010	0·86	32·12	38·60	67·67	" " 7·33 "
·9614	·9493	·0021	6·04	34·68	41·69	73·05	" " 1·9[illegible] "
·9654	·9638	·0016	2·10	26·00	31·57	55·32	" " 19·[illegible] "
·9483	·9465	·0018	4·16	36·28	43·26	75·80	Above " 0·8[illegible] " "
·9477	·9469	·0008	2·26	36·06	43·01	75·37	" " 0·37 " "
·9603	·9597	·0006	2·58	28·75	34·76	60·91	Below " 14·09 " "
·9653	·9636	·0017	1·84	26·13	31·72	55·59	" " 19·41 " "
·9584	·9577	·0007	1·14	30·06	36·26	63·55	" " 11·45 " "
·9484	·9480	·0004	1·08	35·50	42·40	74·30	" " 0·70 " "
·9642	·9621	·0021	2·82	27·14	32·90	57·65	" " 17·35 " "
·9482	·9450	·0032	5·46	37·11	44·18	77·42	Above " 2·42 " "
·9575	·9573	·0002	0·140	30·28	36·51	63·99	Below " 11·01 " "
·9472	·9466	·0006	2·740	36·22	43.19	75·70	Above " 0·70 " "
·9485	·9474	·0011	1·920	35·80	42·73	74·88	Below " 0·12 " "
·9607	·9600	·0007	2·12	28·56	34·54	60·53	" " 14·47 " "
·9474	·9460	·0014	1·90	36·56	43·56	76·34	Above " 1·34 " "
·9600	·9603	·0006	2·06	28·37	34·33	60·16	Below " 14·84 " "
·9477	·9470	0·007	1·12	36·00	42·95	75·26	Above " 0·26 " "
·9496	·9480	·0016	0·96	35·50	42·40	74·30	Below " 0·70 " "
·9604	·9596	·0008	2·00	28·81	34·83	61·04	" " 13·96 " "
·9691	·9575	·0016	4·88	30·17	36·39	63·77	" " 11·23 " "
·9492	·9485	·0007	1·22	35·25	42·12	77·[illegible]	" " 1·19 " "
·9607	·9600	·0007	0·90	28·56	34·54	60[illegible]	" " 14·47 " "
·9579	·9560	·0019	1·32	31·00	37·34	65	" " 9·57 " "
·9528	·9520	·0008	2·16	33·47	40·14	70·[illegible]4	" " 4·66 " "
·9475	·9463	·0012	2·60	36·39	43·38	76·02	Above " 1·02 " "
·9703	·9689	·0014	2·78	22·1[illegible]	27·04	47·39	Below " 27·61 " "
·9443	·9435	·0008	1·56	37·94	45·16	79·04	Above " 4·04 " "
·9475	·9466	·0009	2·44	36·22	[illegible]·18	75·70	" " 0·70 " "
·9510	·9498	·0012	1·[illegible]	34·62	41·[illegible]2	72·59	Below " 2·41 " "
·9485	·9464	·0021	2	36·33	43·[illegible]3	75·91	Above " 0·91 " "
·9626	·9509	·0117	30·06	34·10	40·84	71·58	Below " 3·42 " "
·9487	·9466	·0021	2·56	36·22	43·19	75·70	Above " 0·70 " "
·9485	·9477	·0008	1·48	35·65	42·56	74·59	Below " 0·41 " "
·9479	·9453	·0026	2·60	36·94	44·00	77·10	Above " 2·10 " "
·9479	·9463	·0016	1·86	36·39	43·38	76·02	" " 1·02 " "
·9489	·9463	·0026	2·42	36·39	43·38	76·02	" " 1·02 " "
·9483	·9460	·0023	2·40	36·56	43·56	76·34	" " 1·34 " "
·9477	·9467	·0010	2·28	36·17	43·13	75·59	" " 0·59 " "
·9494	·9480	·0014	1·10	35·50	42·40	74·30	Below " 0·70 " "

The solid (fixed) matter in solution varies from 0·14 to 30·08 parts per 1,000. (Weight in volume.) It averages about 2 parts per 1,000 (= 0·2 per cent), and instances of great variation from this number are exceptional.

The solid matter is essentially tannins and caramelized sugar.

No deleterious substances have, in any case, been found.

INSPECTION OF WHITE WHISKEY—

Date.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Number of Sample.
Aug. 27..	M. J. Foley, S uris, P.E.I.	Sullivan & Co., St. John, N.B.	4371
" 28..	Rinfret et Fils, Rimouski, Que	Wiser, Prescott	24501
" 28..	A. Caron, Rimouski, Que	" "	24502
" 29..	Geo. St. Pierre et Cie., Rivière du Loup	Corby, Belleville	24506
Sept. 1..	A. Saunders, Lévis	Ed. Couture, Lévis	24513
Aug. 18..	J. Colas, 63 Commissioners St., Montreal	L. D. Wilson, Montreal	21320
" 18..	Louis Payette & Co., 125 Commissioners	" "	21325
" 18..	E. Delcourt, 38 St. Paul St	Mathieu Frères, Montreal	21328
" 18..	H. Courtois, 39 St. Paul St	L. D. Wilson & Co., Montreal	21331
" 20..	Joseph Valiquette, 127 Commissioners	Not given	21335
" 20..	L. McNiece, 121 Duke St	"	21339
" 20..	A. J. Oviell, 155 Wellington	Laporte, Martin & Co., Montreal	21340
" 20..	J. Fraid, 133 Commissioners	Boivin, Wilson & Co., Montreal	21344
" 21..	Mde. Lapierre, 3735 Notre Dame	Laporte, Martin & Co., Montreal	21354
" 22..	P. Barnage, 635 Notre Dame	F. X. St. Charles, Montreal	21358
" 26..	[illegible] Kennedy, Smith's Falls, Ont	J. P. Wiser, Prescott	21439
" 31..	Rigney & Hickey, Kingston, Ont.	Bottled by vendor	21450
Sept. 2..	J. D. Carpenter, Market Sq., Hamilton	" "	23209
" 3..	John Mathers, 152 King St. W., Toronto	" "	23211
" 3..	M. Wade, 502 Portland St., Toronto	Kept on draught	23218
Aug. 22..	Joseph Weber, Seaforth, Ont.	Joseph Seagram, Waterloo	22117
Sept. 1..	W. G. Bernhardt, Galt, Ont	" "	22150
" 8..	Thomas Quirk, Stratford, Ont.	Royal Distillery, Hamilton	22158
Aug. 24..	R. E. Trumbell, Brandon, Man.	Gooderham & Worts, Toronto	17492
Sept. 3..	D. Cleland, Winnipeg	" " "	23718
" 9..	Nils Schmidt, Wetaskiwin, Alta	Hamilton Distillery, Hamilton, Ont.	21747
Aug. 22..	P. Barnage, 635 Notre Dame St., Montreal	F. X. St. Charles, Montreal	21358
" 31..	Jas. McParland, Kingston	Gooderham & Worts	21448
" 21.	D. Ashdanase, 573 Marie Anne	Chaput et Fils, Montreal	21350
Sept. 5..	A. Rousseau, Coaticook	C. A. French, Sherbrooke	24517

NOTE.—All samples below standard strength (75 per cent of proof) have been examined for alkaloids. Of 30 samples of white whiskey, 25 are below standard, 20 being more than 5 per cent below and 18

IRISH

Aug. 22..	H. Finnegan, 224 Pr. William St., St. John, N.B.	Edward & J. Burke, Dublin, Ireland	17937
Sept. 8..	J. W. Smith, Water St., St. Stephen, N.B.	Dublin Whiskey Distillery Co., Dublin, Ireland.	17962

NOTE.—Both of these samples gave decided reactions for furfurol, and opalescence on dilution of the

Tabulated Statement.

Result of Analysis.							Observations.
Specific Gravity of Sample.	Spirit Gravity	Difference.	Solids. Parts per thous'nd	Alcohol. Weight.	Alcohol. Volume	Proof Spirit.	
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
·9464	·9441	·0025	.....	37·61	44·73	78·39	Above British standard strength in alcohol by 3·39 per cent of proof spirit.
·9547	·9540	·0007	0·32	32·25	38·75	67·92	Below " 7·08 " "
·9582	·9577	·0005	0·64	30·06	36·26	63·55	" " 11·45 " "
·9647	·9641	·0006	0·26	25·79	31·32	54·88	" " 20·12 " "
·9620	·9617	·0003	0·14	27·43	33·23	58·24	" " 16·76 " "
·9696	·9694	·0002	0·06	21·77	26·58	46·59	" " 28·41 " "
·9654	·9652	·0002	0·12	25·00	30·40	53·27	" " 21·73 " "
·9681	·9681	·0000	0·08	22·77	27·77	48·66	" " 26·34 " "
·9618	·9614	·0004	0·06	27·64	33·48	58·67	" " 16·33 " "
·9682	·9681	·0001	0·22	22·77	27·77	48·66	" " 26·34 " "
·9759	·9753	·0006	0·10	17·00	20·89	36·60	" " 38·40 " "
							Lowest spirit strength.
·9701	·9697	·0004	0·40	21·54	26·31	46·11	" " 28·89 " "
·9702	·9700	·0002	0·08	21·31	26·04	45·63	" " 29·37 " "
·9689	·9685	·0004	0·12	22·46	27·40	48·02	" " 26·98 " "
·9730	·9728	·0002	0·24	19·00	23·28	40·80	" " 34·20 " "
·9587	·9586	·0001	0·08	29·47	35·58	62·36	" " 12·64 " "
·9421	·9389	·0032	10·06	40·35	47·72	83·64	Above " 8·64 " "
							Highest spirit strength.
·9476	·9473	·0003	0·15	35·85	42·78	74·97	Below " 0·03 " "
·9467	·9465	·0002	0·06	36·28	43·26	75·80	Above " 0·80 " "
·9631	·9615	·0016	3·86	27·57	33 39	58·53	Below " 16·47 " "
·9530	·9509	·0021	2·80	34·10	40·84	71·58	" " 3·42 " "
·9500	·9494	·0006	0·16	34·81	41·63	72·96	" " 2·04 " "
·9519	·9518	·0001	0·38	33·59	40·27	70·57	" " 4·40 " "
·9480	·9460	·0020	2·10	36·56	43·56	76·34	Above " 1·34 " "
·9567	·9551	·0016	1·40	31·56	37·97	66·55	Below " 8·45 " "
·9492	·9473	·0019	.....	35·85	42·78	74·97	" " 0·03 " "
·9723	·9722	·0001	.....	19·50	23·88	41·85	" " 33·15 " "
·9449	·9429	·0020	5·84	38·28	45·47	79 68	Above " 4·68 " "
·9677	·9677	·0000	0·16	23·08	28·13	49·30	Below " 25·70 " "
·9647	·9645	·0002	0·16	25·50	30·98	54·30	" " 20·70 " "

No alkaloids have been found in any sample.
more than 10 per cent below, while 13 samples are more than 20 per cent below standard.

WHISKEY.

·9435	·9407	·0028	2·80	39·45	46·75	81·93
9101	·9087	·0014	0·94	54·14	61·98	108·62

distillate with water.

INSPECTION OF SCOTCH WHISKEY—

Date.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Name of Brand.	Number of Sample.
1903.				
Sept. 8.	Kelly & Glassey, Halifax	Sheriff & Co., Scotland		20337
" 9.	T. H. Renner, Halifax	McPherson & Co., Scotland	Fernbank***	20339
" 10.	James Scott & Co., Halifax	Bullouk Lade, Scotland		20344
" 10.	C. D. Norton, Halifax	Cameron & Co., Scotland		20345
" 10.	T. F. Courtney & Co., Halifax	Bullock Lade, Scotland		20347
" 11.	T. Pearson, Halifax			20350
" 10.	Town of Bridgewater, Bridgewater	J. Buchanan & Co	The Buchanan Blend	20375
Aug. 21.	Byrne Bros., Charlottetown	Cowan & Co., Glasgow		4353
" 24.	A. McDonald, Charlottetown	Bullock, Lade & Co., Scotland		4356
" 25.	P. N. Enman, Sunnyside	Haigge & Haigge, St. John, N.B.		4365
" 21.	McIntyre & Comeau, St. John, N.B	M. B. Foster & Sons, London and Glasgow	Bugle brand	17932
" 21.	R. Sullivan & Co., St. John, N.B.	Mackie & Co., Ltd., Glasgow		17934
" 26.	A. E. Holstead, Moncton, N.B.	Wright & Greigs, Glasgow.	Premier	17947
Sept. 12.	McDonald & Heeney, Fredericton.	James Buchanan & Co., Glasgow, Scotland.		17975
Aug. 18.	E. Delcourt, 38 St. Paul St., Montreal	J. Townsend, Montreal		21329
" 20.	E. Gauvreau, 185 Commissioner St., Montreal	Blended by vendor		21342
" 31.	Thos. J. Leahy, Kingston, Ont	Mitchell's		21445
Sept. 10.	J. Diamond, Edmonton	Hugh McKinnon, Glasgow, Scotland		21752
Aug. 25.	C. Anderson, Vancouver	J. Dewar, Scotland		23552
" 25.	R. Asbeith, Vancouver	White & McKay, Scotland		23556
Sept. 2.	J. Mahrer, Nanaimo	J. Watson & Co., Dundee, Scotland.		23562
" 6.	Faith & Seeley, New Westminster.	Pither & Lerser, Victoria		23592
				4354
				22159

NOTES.—1. A furfurol reaction was obtained, more or less distinctly, with all samples of Scotch proof (= B. 30 under proof). 3. The average fixed matter in solution is 1·54 per thousand

Tabulated Statement.

Result of Analysis.							
Specific Gravity	Spirit Gravity	Difference.	Solids Parts per 1,000.	Alcohol.		Proof Spirit.	Observations.
				Weight.	Volume		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
·9402	·9391	·0011	2·48	40·25	47·62	83·45	
·9392	·9384	·0008	0·46	40·60	47·99	84·11	No opalescence on dilution of distillate.
·9475	·9457	·0018	2·60	36·72	43·75	76·67	No opalescence on dilution of distillate.
·9435	·9430	·0005	0·74	38·22	45·41	79·57	
·9384	·9376	·0008	1·58	41·00	48·43	84·87	
·9587	·9568	·0019	4·14	30·56	36·83	64·54	Below standard strength in alcohol.
·9381	·9374	·0007	1·60	41·10	48·54	85·06	
·9432	·9427	·0005	0·72	38·39	45·59	79·89	
·9238	·9223	·0015	1·36	48·14	56·93	98·01	
·9384	·9377	·0007	1·16	40·96	48·37	84·77	
·9425	·9422	·0003	0·54	38·67	45·89	80·43	
·9381	·9366	·0015	2·04	41·50	48·97	85·81	
·9415	·9403	·0012	1·36	39·65	46·97	82·31	
·9389	·9377	·0012	1·70	40·95	48·37	84·77	
·9194	·9188	·0006	0·80	35·19	41·95	73·52	
·9262	·9243	·0019	2·64	47·23	54·99	96·39	
·9264	·9260	·0004	0·82	46·46	54·19	94·97	
·9140	·9130	·0010	1·60	52·23	60·07	105 27	
·9111	·9105	·0006	0·62	53·35	61·19	107·23	
·9258	·9246	·0012	2 56	47·09	54·85	96·12	
·9170	·9163	·0007	1·02	50·83	58·67	102·82	
·9399	·9385	·0014	3·02	40·55	47·94	84·02	No opalescence on dilution of distillate.
·9426	·9416	·0009	0·92	39·00	46·26	81·07	Furfurol reaction doubtful.
·9377	·9374	·0003	0·42	41·10	48·54	85·06	

Whiskey, except No. 2358.

(= 0·154 per cent weight in volumes).

2. The average spirit strength of these samples is 86·70 per cent of

Date.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Number of Sample.
Aug. 25..	J. D. Gourlay, Sunnyside, P.E.I	Beale & Co., St. John, N.B	4364
Sept. 10..	Jas. Scott & Co., Halifax, N.S	Heukes, Holland, bottled by vendor	20343
" 10..	T. F. Courtenay & Co., Halifax	" "	20346
" 18..	Town of Bridgewater, N.S	" "	20376
Aug. 22..	J. D. Regan, St. John	John De Kuyper & Son, Rotterdam	17935
" 28..	R. H. Armstrong, Newcastle, N.B	Blaukenleigm & Nolet, Rotterdam	17951
Sept. 10..	C. Curlen, Grand Falls, N.B	John De Kuyper & Son	17966
" 12..	John M. Wiley, Fredericton	John D. Regan, St. John, N.B	17974
" 1..	Raymond Bilodeau, Levis, Que	Carrière et fils, Levis	24511
" 16..	Victor Lefebvre, Lachute	Nap. Carrière, Lachute	24521
Aug. 18..	J. Colas, Montreal	L. A. Wilson & Co., Montreal	21321
" 18..	Desjardin & Co., Montreal	D. Larivière & Co., Montreal	21322
" 18..	T. N. Laganiere, Montreal	L. Chaput, fils & Co., Montreal	21326
" 18..	Mrs. D. Racine, Montreal	L. D. Wilson & Co	21333
" 20..	Mrs. M. Murphy, Montreal	Blended by vendor	21338
" 20..	Alex. Boiron, Montreal	Boivin, Wilson & Co	21345
" 21..	A. U. Monast, Montreal	A. Robitaille, Montreal	21352
" 21..	P. N. Thibault, Montreal	Hudon, Hebert & Co., Montreal	21355
" 22..	E. Menard, Montreal	Boivin, Wilson & Co	21359
" 31..	E. Halliday, Kingston		21444
Sept. 2..	D. Smith, Hamilton		23202
" 2..	Hazell & Sons, Hamilton	Bottled by vendors	23206
" 3..	E. Morgan, Toronto	Kept on draught	23214
" 1.	Wm. Metcalfe, Berlin	Bordin & Watson, Montreal	22143
Aug. 28..	G. [illegible]	Richard & Co., Winnipeg	23710
" 29..	Richard & Co., Winnipeg	John De Kuyper, Holland	23711
			21441

NOTES.—All the above samples of gin, excepting No. 23710, gave distinct reactions for furfurol and a (Great Britain) fixed the minimum limit of spirit strength for gin at 65 per cent of proof. This is the examined for alkaloids. No alkaloids have been found in any sample. The average spirit strength found spirit strength is 47·70 per cent of proof.

Tabulated Statement.

Result of Analysis.							Observations.
Specific Gravity	Spirit Gravity	Difference.	Solids Parts per 1000.	Alcohol.		Proof Spirit.	
				Weight.	Volume		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
·9262	·9257	·0005	0·12	46·59	54·33	95·22	
·9443	·9436	·0007	0·14	42·95	50·52	88·53	
·9326	·9316	·0010	0·60	43·90	51·53	90·30	
·9476	·9473	·0003	0·10	35·85	42·78	74·97	
·9420	·9418	·0002	0·06	38·89	46·14	80·86	
·9445	·9436	·0009	0·88	37·80	45·04	78·93	
·9225	·9222	·0003	0·36	48·18	55·97	98·09	
·9217	·9214	·0003	0·10	48·55	56·35	98·75	
·9327	·9321	·0006	1·14	33·41	40·07	70·23	
·9506	·9501	·0005	0·16	34·48	41·26	72·31	
·9560	·9556	·0004	0·24	24·69	30·04	52·64	Below British standard strength in alcohol.
·9545	·9540	·0005	0·20	32·25	38·75	67·92	
·9615	·9613	·0002	0·38	27·71	33·56	58·82	" " "
·9550	·9544	·0006	0·38	32·00	38·47	67·42	
·9595	·9591	·0004	0·18	29·13	35·20	61·69	" " "
·9691	·9687	·0004	0·20	22·92	27·95	48·98	Much " " "
·9573	·9570	·0003	0·36	22·31	27·22	47·70	" " " "
·9664	·9660	·0004	0·24	30·44	36·70	64·32	" " " "
·9350	·9342	·0008	0·22	23·92	29·13	51·00	" " " "
·9338	·9336	·0002	0·14	42·67	50·21	88·00	
·9336	·9320	·0016	1·34	42·95	50·52	88·53	
·9506	·9491	·0009	0·40	43·71	51·32	89·95	
·9429	·9426	·0003	0·20	34·95	41·75	73·24	
·9789	·9676	·0113	30·16	38·44	45·65	80·00	
·9326	·9316	·0010	0·64	23·15	28·22	49·46	'Old Tom Gin,' below British standard in alcohol.
·9475	·9470	·0005	0·12	43·90	51·53	90·30	
				36·00	42·95	75·26	

turbidity (opalescence) on dilution of the distillate with water. The Sale of Food Amendment Act of 1879 standard referred to in the marginal notes. All samples below 65 per cent of spirit strength have been for 27 samples of gin is 74·97 per cent. The highest spirit strength is 98·91 per cent of proof. The lowest

Date of Collection	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Aug. 22	Jamaica Rum	G. E. Hughes, Charlottetown	L. A. Wilson, Montreal	4356
" 27	Demerara Rum	M. J. Foley, Souris, P.E.I	R. Sullivan & Co., St. John, N.B.	4366
Sept. 8	"	Kelley & Glassey, Halifax, N.S.	Sanback & Parker, Demerara, B.W.I.	20336
" 9	Jamaica Rum	P. Donahue & Sons "	Unknown	20342
" 11	Demerara Rum	A. L. Miller "	"	20349
" 21	"	M. H. Townsend, Kentville, N.S	T. F. Courtney, Halifax	20384
" 22	"Golden Glow," Jamaica Rum.	John D. Regan, St. John, N.B.	J. Brown & Co., London, Eng	17936
" 2		M. Thibaudeau, Quebec	Ledroit Frères, Quebec	24514
" 3	Rum	Hardmarsh & Martin, Nanaimo, B.C.	Pither & Leiser, Victoria, B.C.	23580
" 3	"	J. Mahrer, Nanaimo, B.C.	J. D. Watson & Co., Dundee, Scot.	23583
" 4	"	Mrs. Stevens, Ladysmith	Hudson Bay Co., Victoria, B.C.	23585
	"	Reuben Elley, New Westminster	" Vancouver	23591

NOTE.—All the above samples of rum gave reaction for furfurol; and the distillates, on dilution with water, became distinctly opalescent.

The average strength for 12 samples of rum is 97·14 per cent. of proof spirit.

The average amount of solid matter in solution is 6·53 grammes per litre, or 0·653 per cent (weight in volume).

Tabulated Statement.

Result of Analysis.							
Specific Gravity of Sample.	Spirit Gravity.	Difference	Solids in Solution.	Alcohol.		Proof Spirit.	Observations.
				Weight.	Volume.		
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
·9526	·9509	·0017	3·30	34·10	40·84	71·58	Lowest spirit strength found.
·9392	·9364	·0028	4·74	41·60	49·07	86·00	
·9363	·9332	·0031	9·06	43·14	50·72	88·88	
·9380	·9362	·0018	5·74	41·70	49·18	86·18	
·9480	·9450	·0030	5·88	37·11	44·18	77·42	
·9247	·9232	·0015	3·74	47·73	55·51	97·27	
·9407	·9382	·0025	6·18	40·70	48·10	84·30	
·8933	·8878	·0055	12·08	63·35	70·85	124·16	
·8991	·8966	·0025	7·00	59·57	67·28	117·90	
·8812	·8773	·0039	6·00	67·83	74·97	131·38	Highest "
·9322	·9297	·0025	5·20	44·77	52·44	91·90	
·9145	·9112	·0033	9·42	53·04	60·89	106·71	

The maximum solids = 12·08 grammes per litre.
The minimum " = 3·30 "
This solid matter is chiefly caramelized sugar.

INSPECTION OF BRANDY—

Date of Collection	Nature of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.	Number of Sample.
Aug. 21	Brandy	Byrne Bros., Charlottetown	Archambeaud Frères, France	4352
" 21		A. W. Reddin "	Cognac Distillery Assn. "	4357
Sept. 8		Kelley & Glassey, Halifax	Rouger Guillet & Co. "	20338
" 9		Dillon Bros. "	Gerrard & Co. "	20341
" 11		G. Verdi "	Unknown	20348
Aug. 21		C. N. Beale & Co., North Wharf, St. John.	Boutelleau & Co., Barbezein near Cognac, France.	17933
" 29		Henry White, Bathurst, N.B	Meagher Bros. & Co., Montreal	17955
Sept. 11		J. E. Sheasgreen, Woodstock, N.B	Evans Sons & Co., Ltd. "	17970
Aug. 31		J. N. Anctil, Rivière du Loup	L. A. Wilson "	24504
Sept. 2		N. Fournier, Montmagny	Carrière & fils, Lévis, Que.	24509
" 5		A. Parent, Quebec	J. Baillargeon, Quebec	24515
		J. R. Roy, Coaticook	Walker	24519
Aug. 18		C. E. Laflamme, St. Jérôme	L. Chaput et fils, Montreal	24523
" 21		Mrs. A. Racine, 99 St. Paul St., Montreal.	L. A. Wilson & Co. "	21332
		Joseph Boyer, 133 St. Dominique, Montreal.	F. X. St. Charles "	21347
" 31		Rigney & Hickey, Kingston	Bottled by vendor	21452
" 31		T. H. Pelou, Kingston	"	21455
Sept. 2		Chas. Schwenger, Hamilton	Not given	23204
" 3		C. E. Vardon, 543 Queen East, Toronto.	Kept on draught	23215
" 3		T. Reynolds, 837 "	"	23219
Aug. 24		A. Munroe & Co., Brandon, Man	Champane Vineyard, Boutelleau, France.	17493
" 29		W. J. Sherman, Winnipeg		23712
" 25		C. Johnston, Vancouver, B.C	Pither & Leiser, Victoria	23553
" 25		Jos. Nauthwell, Nanaimo	" "	23579
Sept. 4		John Tha, Ladysmith, B.C	Did not know	23584
" 6		J. E. Hughes, New Westminster	H. Freeman, New Westminster	23588
		The following samples were purchased in Ottawa, Oct. 27, 1903.		
	One Star	Bate & Co	Own bottling	
	Three Stars	"	"	
	V.O	"	J. Hennessy & Co.	
	V.S.O.P.	"	J. F. Martell	

NOTES:—

In 30 samples of brandy the highest alcohol found is 106·23 per cent proof spirit; the lowest is 60·66 per cent proof spirit.

The average spirit strength is 77·62 per cent.

Only 5 samples fall below 75 per cent of proof spirit, and only 2 samples below 70 per cent.

Tabulated Statement.

Result of Analysis.								
Specific Gravity of Sample.	Spirit Gravity.	Difference.	Solids of Solution	Alcohol.		Proof Spirit.	Furfurol reaction.	Opalescence dilution of distillate.
				Weight.	Volume			
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
·9412	·9355	·0057	15·54	42·06	49·55	86·84	Decided	Decided.
·9169	·9156	·0013	2·72	51·13	58·97	103·34	"	"
·9378	·9332	·0046	12·40	43·14	50·72	88·88		
·9452	·9432	·0020	5·44	38·11	45·28	79·36	Faint	Faint.
·9547	·9539	·0008	3·28	32·31	38·82	68·04	"	"
·9240	·9204	·0036	13·22	49·00	56·82	99·57	Decided	Decided.
·9609	·9599	·0010	3·14	28·62	34·61	60·66	"	"
·9506	·9491	·0015	4·10	34·95	41·79	73·24	Faint	Faint.
·9212	·9188	·0024	5·04	49·73	57·54	100·85	Decided	Decided.
·9387	·9308	·0079	16·84	44·27	51·91	90·98	"	"
·9338	·9302	·0038	10·52	44·55	52·20	91·48	"	"
·9322	·9289	·0033	15·32	45·14	52·82	92·56	Faint	Faint.
·9201	·9172	·0029	11·80	50·43	58·28	102·12	"	"
·9512	·9489	·0023	4·52	35·05	41·90	73·43	Decided	"
·9398	·9366	·0032	4·76	41·50	48·97	85·81	Faint	"
·9211	·9187	·0024	9·80	49·77	57·59	100·93	Decided	Decided.
·9153	·9118	·0035	11·66	52·77	60·61	106·23	"	"
·9180	·9147	·0033	10·04	51·50	59·34	104·00	Faint	Faint.
·9257	·9181	·0076	24·16	50·04	57·88	101·43	Decided	Decided.
·9516	·9509	·0007	3·06	34·10	40·84	71·58	Faint	None.
9405	·9370	·0035	4·66	41·30	48·75	85·43	"	Faint.
·9223	·9168	·0055	20·56	50·61	58·45	102·43	Decided	Decided.
·9253	·9245	·0015	5·56	47·14	54·90	96·21	Faint	Faint.
·9231	·9208	·0022	7·28	48·82	56·63	99 24	Decided	Decided.
·9481	·9457	·0024	6·56	36·72	43·75	76·67		
·9430	·9355	·0075	21·18	42·05	49·55	86·84	"	"
·9491	·9473	·0018	2·70	35·85	42·78	74 97	Faint	Faint.
·9461	·9436	·0025	4·76	37·89	45·04	78·93	Decided	Decided.
·9394	·9366	·0028	8·72	41·50	48·97	85·81	"	"
·9388	·9349	·0039	8·07	42·33	49·86	87·37	"	"

The solid matter amounts to 20 grammes per litre in 3 samples.
" " " 15 " " 3 "
" " " 10 " " 6 "
" " " 5 " " 8 "
" " is less than 5 " " 10 "